

**MAR 05 2014****510(k) Summary**

**Manufacturer:** U & I Corporation  
20, Sandan-ro 76beon-gil(Rd), Uijeongbu-si, Gyeonggi-do,  
Korea, 480-859

**Sponsor:** U & I Corporation  
20, Sandan-ro 76beon-gil(Rd), Uijeongbu-si, Gyeonggi-do,  
Korea, 480-859

**Sponsor Contact:** Gyeong-Je Kwon, Regulatory Affairs Specialist  
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**Date Prepared:** February 28, 2014

**Device Name:** Trade Name: Velofix™ Interbody Fusion System

**Classification Name:** Spinal Intervertebral Body Fusion Device, Cervical  
Spinal Intervertebral Body Fusion Device, Lumbar  
, per 21 CFR 888.3080

**Common Name:** Intervertebral Body Fusion Device, IBF Device

**Product Code:** ODP, MAX

**Predicate Devices:** Galaxy (ACIF, PLIF, TLIF) PEEK Cage (K122872)  
BAK/Cervical Interbody Fusion System (P980048)  
C-Thru™ Anterior Spinal System (K092336)  
Capstone Spinal System (K082342)

**Description of Device:**

The Velofix™ Interbody Fusion System consists of implants available in various heights, width and angle with an open architecture to accept packing of bone graft material.

And consist of:

- 1) Cervical Interbody Fusion Device (Velofix™ PEEK Cervical Cage), which may be implanted as a single device via an anterior approach.
- 2) Lumbar Interbody Fusion Device (Velofix™ PEEK Lumbar Cage), which may be implanted.
  - o Bilaterally via a posterior(PLIF) approach;
  - o As a single device via a transforaminal(TLIF) approach;

The implants are made of radiolucent polymer polyether-ether-ketone(PEEK-

OPTIMA LT 1, ASTM F2026) body with the x-ray markers made of tantalum markers (ASTM F560).

The Velofix™ PEEK(Cervical and Lumbar) Cage is implanted by using the instruments manufactured from stainless steel materials that conform to ASTM F899.

#### **Intended Use:**

The Velofix™ PEEK Cervical Cage is indicated for intervertebral body fusion in skeletally mature patients with degenerative disc disease (DDD) of the cervical spine with accompanying radicular symptoms at one disc level from the C2-C3 disc to the C7-T1 disc. DDD is defined as discogenic pain with degeneration of the disc confirmed by history and radiographic studies. The device system is designed for use with supplemental fixation and with autograft to facilitate fusion. Patients should have at least six weeks of non-operative treatment prior to treatment with an intervertebral cage.

The Velofix™ PEEK Lumbar Cage is indicated for use with autogenous bone graft in patients with degenerative disc disease(DDD) at one or two levels for L2 to S1. These DDD patients may also have up to Grade 1 Spondylolisthesis or retrolisthesis at the involved levels. DDD is defined as back pain of discogenic origin with degeneration of the disc confirmed by history and radiographic studies. These patients should be skeletally mature and have had six months of non-operative treatment. These devices are intended to be used with supplemental fixation.

#### **Substantial Equivalence:**

The Velofix™ Interbody Fusion System is substantially equivalent to Galaxy (ACIF, PLIF, TLIF) PEEK Cage (K122872), BAK/Cervical Interbody Fusion System (P980048), C-Thru™ Anterior Spinal System (K092336), Capstone Spinal System (K082342) in design, material, mechanical performance, function and intended use.

The mechanical performance of Velofix™ Interbody Fusion System met the acceptance criteria which have been established from the predicate devices.

#### **1. Comparison Technological Characteristics**

The predicate and proposed devices have the similar intended use and basic fundamental scientific technology and share the following similarities;

- The similar indications for use
- Similar design features

**Velofix™ Interbody Fusion System**

**U&J CORPORATION**

- Incorporate the same or similar materials
- The equivalent mechanical performance

## 2. Performance Testing

The Velofix™ Interbody Fusion System was tested in a non clinical setting (bench testing) to assess that to no new safety and efficiency issues were raised with this device. The testing met all acceptance criteria and verifies that performance of the Velofix™ Interbody Fusion System is substantially equivalent to the predicate devices.

The following tests were performed:

- 1) Velofix™ PEEK Cervical Cage
  - (1) Static compression test according to ASTM F2077
  - (2) Static torsion test according to ASTM F2077
  - (3) Dynamic compression test according to ASTM F2077
  - (4) Dynamic torsion test according to ASTM F2077
  - (5) Subsidence test according to ASTM F2267
- 2) Velofix™ PEEK Lumbar Cage
  - (1) Static compression test according to ASTM F2077
  - (2) Dynamic compression test according to ASTM F2077
  - (3) Subsidence test according to ASTM F2267

## 3. Conclusion

The data and information provided in this submission support the conclusion that the Velofix™ Interbody Fusion System is substantially equivalent to its predicate devices with respect to indications for use and technological characteristics.



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Food and Drug Administration  
10903 New Hampshire Avenue  
Document Control Center - WO66-G609  
Silver Spring, MD 20993-0002

March 5, 2014

U & I Corporation  
Gyeong Je-Kwon  
Regulatory Affairs Specialist  
20, Sandan-ro 76beon-gil(Rd), Uijeongbu-si, Gyeonggi-do  
Korea, 480-859

Re: K132926

Trade/Device Name: Velofix™ Interbody Fusion System  
Regulation Number: 21 CFR 888.3080  
Regulation Name: Spinal intervertebral body fusion device  
Regulatory Class: Class II  
Product Code: ODP, MAX  
Dated: January 24, 2014  
Received: January 27, 2014

Dear Mr. Gyeong Je-Kwon:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration. Please note: CDRH does not evaluate information related to contract liability warranties. We remind you; however, that device labeling must be truthful and not misleading.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); medical device reporting (reporting of medical device-related adverse events) (21 CFR 803); good manufacturing practice requirements as set

forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please contact the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (301) 796-7100 or at its Internet address <http://www.fda.gov/MedicalDevices/ResourcesforYou/Industry/default.htm>. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR Part 807.97). For questions regarding the reporting of adverse events under the MDR regulation (21 CFR Part 803), please go to <http://www.fda.gov/MedicalDevices/Safety/ReportaProblem/default.htm> for the CDRH's Office of Surveillance and Biometrics/Division of Postmarket Surveillance.

You may obtain other general information on your responsibilities under the Act from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (301) 796-7100 or at its Internet address <http://www.fda.gov/MedicalDevices/ResourcesforYou/Industry/default.htm>.

Sincerely yours,

Vincent J. Devlin -S

for

Mark N. Melkerson

Director

Division of Orthopedic Devices

Office of Device Evaluation

Center for Devices and

Radiological Health

Enclosure

**Indications for Use**

510(k) Number (if known)  
K132926

Device Name  
Velofix™ Interbody Fusion System

**Indications for Use (Describe)**

The Velofix™ PEEK Cervical Cage is indicated for intervertebral body fusion in skeletally mature patients with degenerative disc disease (DDD) of the cervical spine with accompanying radicular symptoms at one disc level from the C2-C3 disc to the C7-T1 disc. DDD is defined as discogenic pain with degeneration of the disc confirmed by history and radiographic studies. The device system is designed for use with supplemental fixation and with autograft to facilitate fusion. Patients should have at least six weeks of non-operative treatment prior to treatment with an intervertebral cage.

The Velofix™ PEEK Lumbar Cage is indicated for use with autogenous bone graft in patients with degenerative disc disease (DDD) at one or two levels for L2 to S1. These DDD patients may also have up to Grade I Spondylolisthesis or retrolisthesis at the involved levels. DDD is defined as back pain of discogenic origin with degeneration of the disc confirmed by history and radiographic studies. These patients should be skeletally mature and have had six months of non-operative treatment. These devices are intended to be used with supplemental fixation.

Type of Use (Select one or both, as applicable)

☒ Prescription Use (Part 21 CFR 801 Subpart D)

☐ Over-The-Counter Use (21 CFR 801 Subpart C)

PLEASE DO NOT WRITE BELOW THIS LINE -- CONTINUE ON A SEPARATE PAGE IF NEEDED.

FOR FDA USE ONLY

Concurrence of Center for Devices and Radiological Health (CDRH) (Signature)

**Anton E. Dmitriev, PhD**  
**Division of Orthopedic Devices**

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